BORROWED CAPITAL LIMITS

- DAIRY -

ASSUMPTIONS:

1. GROSS RECEIPTS - Gross Receipts are composed of milk sales and milk subsidies. In addition, livestock and crop sales and one-third of the miscellaneous sales in the amount of $252. per cow are added. Gross Receipts were calculated for various production levels as shown in the tables found later in this booklet.

2. EXPENSES - Expenses to produce milk were estimated to be 76.6 percent of Gross Receipts. Expenses included all direct operating costs plus repairs, taxes and insurance. It should be noted that the Nova Scotia Dairy Farm Business Summaries for the years 1978-82 inclusive were used as a basis for the above calculations.

3. LABOR - Operator Labor was estimated to be $198. per cow. This amount represents unpaid operator labor and must be considered a very minimum living allowance.

4. FORMULA - The following formula was then used to calculate a Residual for interest and principal repayment.

GROSS RECEIPTS - EXPENSES - LABOR = RESIDUAL FOR INTEREST AND LOAN REPAYMENT

5. REPAYMENT - CAPITALIZATION RATE - Although the name assigned may be somewhat out of context from what is generally understood to be Capitalization Rate, what is visualized is to calculate the Repayment Capacity given various residuals and loan combinations.

To calculate the various Repayment - Capitalization Rates, the following additional assumptions were made:

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(a) Farm Loan Board - It was assumed that long term financing would be available from this service using a loan amortized over 20 years with an annual interest rate of 9 percent.

(b) Bank and Other - It was assumed that short and intermediate term financing would be available. It was further assumed that a blend or composite repayment term of four (4) years with an annual interest rate of 14.7 percent (Amortized Loan) would be appropriate.

(c) Equity - Equity was not considered since the main thrust of this booklet was to estimate repayment of interest and principal monies borrowed from businesses external to the farm business as opposed to total capitalization.

(d) Table 1 - This table represents the Repayment - Capitalization Rate for various loan combinations.

6. DIRECTIONS FOR USE - In order to make use of the information contained in the following tables, several steps are involved. These include:

(a) Determine the Total Capital to be borrowed by the farm business.

(b) Determine the number of cows.

(c) Determine the ratio or percentage of these borrowed funds from (i) Farm Loan Board, and (ii) Bank or Other.

(d) Using this ratio, refer to Table 1 and determine the Repayment - Capitalization Rate.

(e) Using the Rate obtained from Table 1, select the appropriate production level Table, find the correct blend price to be received for milk and determine the amount of capital that can be repaid by the farm business.

.../3

7. EXAMPLE CALCULATION - A prospective farm family wishes to know if they can borrow $235,500. to purchase a 60 cow dairy farm. They wish to borrow $223,725. from the Farm Loan Board and the balance, $11,775. from the Bank. They estimate that the herd will produce 6,000 litres of milk per cow per year, and that the blend price for milk will be $43.75 per hectolitre.

(a) Borrowings per Cow $= \frac{\$235,500.}{60} = \$3,925.$

(b) Percentage of Borrowed Funds from:

(i) Farm Loan Board - 95%

(ii) Bank - 5%

(c) Table 1 - Repayment - Capitalization Rate - 12.1

(d) Borrowed Capital Limit from the 6,000 Litre Production Level Table at a blend milk price of $43.75 per hectolitre is $3,927.00.

(e) Based on 60 cows, the prospective farm family could meet their debt obligations on their proposed purchase (assuming cost, returns, and borrowed patterns as suggested).

8. EDITORS NOTE - The information contained in this booklet is intended for use only as a guide. The information was not developed from random sample date - hence interpretation and use beyond that as a guide to budgeting is beyond the intent or scope of this paper.

TABLE 2

REPAYMENT - CAPITALIZATION RATE

FARM LOAN BOARD %	BANK FINANCED																				
	-0-	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
100	10.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
95	-	12.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
90	-	-	13.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85	-	-	-	14.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
80	-	-	-	-	15.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
75	-	-	-	-	-	16.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	-	-	-	-	-	-	18.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-
65	-	-	-	-	-	-	-	19.2	-	-	-	-	-	-	-	-	-	-	-	-	-
60	-	-	-	-	-	-	-	-	20.4	-	-	-	-	-	-	-	-	-	-	-	-
55	-	-	-	-	-	-	-	-	-	21.6	-	-	-	-	-	-	-	-	-	-	-
50	-	-	-	-	-	-	-	-	-	-	22.7	-	-	-	-	-	-	-	-	-	-
45	-	-	-	-	-	-	-	-	-	-	-	23.9	-	-	-	-	-	-	-	-	-
40	-	-	-	-	-	-	-	-	-	-	-	-	25.1	-	-	-	-	-	-	-	-
35	-	-	-	-	-	-	-	-	-	-	-	-	-	26.3	-	-	-	-	-	-	-
30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.5	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	28.7	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29.9	-	-	-	-
15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.0	-	-	-
10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32.2	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.4	-
-0-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	34.6

4500 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	2685	2758	2830	2903	2975	3048	3120	3192	3265	3337	3410
12.10	2419	2484	2550	2615	2680	2745	2811	2876	2941	3006	3072
13.30	2201	2260	2319	2379	2438	2498	2557	2616	2676	2735	2795
14.50	2019	2073	2128	2182	2236	2291	2345	2400	2454	2509	2563
15.60	1876	1927	1978	2028	2079	2129	2180	2231	2281	2332	2383
16.80	1742	1789	1836	1883	1930	1977	2024	2071	2118	2165	2212
18.00	1626	1670	1714	1758	1802	1845	1889	1933	1977	2021	2065
19.20	1524	1566	1607	1648	1689	1730	1771	1812	1854	1895	1936
20.40	1435	1474	1512	1551	1590	1628	1667	1706	1745	1783	1822
21.60	1355	1392	1428	1465	1501	1538	1574	1611	1648	1684	1721
22.70	1289	1324	1359	1394	1429	1463	1498	1533	1568	1603	1637
23.90	1225	1258	1291	1324	1357	1390	1423	1456	1489	1522	1555
25.10	1166	1198	1229	1261	1292	1323	1355	1386	1418	1449	1481
26.30	1113	1143	1173	1203	1233	1263	1293	1323	1353	1383	1413
27.50	1064	1093	1122	1151	1179	1208	1237	1265	1294	1323	1352
28.70	1020	1047	1075	1102	1130	1157	1185	1212	1240	1268	1295
29.90	979	1005	1032	1058	1085	1111	1137	1164	1190	1217	1243
31.00	944	970	995	1021	1046	1072	1097	1123	1148	1173	1199
32.20	909	934	958	983	1007	1032	1056	1081	1105	1130	1154
33.40	876	900	924	947	971	995	1018	1042	1066	1089	1113
34.60	846	869	892	914	937	960	983	1006	1029	1051	1074

5000 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	3125	3206	3286	3367	3447	3528	3608	3689	3769	3850	3930
12.10	2815	2888	2960	3033	3106	3178	3251	3323	3396	3468	3541
13.30	2561	2627	2693	2759	2825	2891	2957	3023	3089	3155	3221
14.50	2349	2410	2470	2531	2592	2652	2713	2773	2834	2894	2955
15.60	2184	2240	2296	2353	2409	2465	2521	2578	2634	2690	2746
16.80	2028	2080	2132	2184	2237	2289	2341	2393	2446	2498	2550
18.00	1893	1941	1990	2039	2088	2136	2185	2234	2283	2331	2380
19.20	1774	1820	1866	1911	1957	2003	2049	2094	2140	2186	2231
20.40	1670	1713	1756	1799	1842	1885	1928	1971	2014	2057	2100
21.60	1577	1618	1658	1699	1740	1780	1821	1862	1902	1943	1983
22.70	1501	1539	1578	1617	1655	1694	1733	1771	1810	1849	1887
23.90	1425	1462	1499	1536	1572	1609	1646	1682	1719	1756	1793
25.10	1357	1392	1427	1462	1497	1532	1567	1602	1637	1672	1707
26.30	1295	1329	1362	1395	1429	1462	1496	1529	1562	1596	1629
27.50	1239	1271	1303	1335	1366	1398	1430	1462	1494	1526	1558
28.70	1187	1218	1248	1279	1309	1340	1370	1401	1432	1462	1493
29.90	1139	1169	1198	1227	1257	1286	1315	1345	1374	1403	1433
31.00	1099	1127	1156	1184	1212	1240	1269	1297	1325	1354	1382
32.20	1058	1085	1112	1140	1167	1194	1221	1249	1276	1303	1330
33.40	1020	1046	1073	1099	1125	1151	1178	1204	1230	1256	1283
34.60	985	1010	1035	1061	1086	1111	1137	1162	1187	1213	1238

5500 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	3565	3654	3743	3831	3920	4008	4097	4185	4274	4362	4451
12.10	3212	3292	3371	3451	3531	3611	3691	3770	3850	3930	4010
13.30	2922	2995	3067	3140	3212	3285	3358	3430	3503	3575	3648
14.50	2680	2747	2813	2880	2947	3013	3080	3146	3213	3279	3346
15.60	2491	2553	2615	2677	2739	2801	2863	2924	2986	3048	3110
16.80	2313	2371	2428	2486	2543	2601	2658	2716	2773	2830	2888
18.00	2159	2213	2266	2320	2374	2427	2481	2534	2588	2642	2695
19.20	2024	2074	2125	2175	2225	2276	2326	2376	2426	2477	2527
20.40	1905	1952	2000	2047	2094	2142	2189	2236	2284	2331	2378
21.60	1799	1844	1889	1933	1978	2023	2067	2112	2157	2201	2246
22.70	1712	1755	1797	1840	1882	1925	1967	2010	2052	2095	2137
23.90	1626	1666	1707	1747	1788	1828	1868	1909	1949	1990	2030
25.10	1548	1587	1625	1664	1702	1741	1779	1818	1856	1894	1933
26.30	1478	1514	1551	1588	1625	1661	1698	1735	1771	1808	1845
27.50	1413	1448	1483	1519	1554	1589	1624	1659	1694	1729	1764
28.70	1354	1388	1421	1455	1489	1522	1556	1590	1623	1657	1690
29.90	1300	1332	1364	1397	1429	1461	1493	1526	1558	1590	1623
31.00	1254	1285	1316	1347	1378	1409	1440	1472	1503	1534	1565
32.20	1207	1237	1267	1297	1327	1357	1387	1417	1447	1477	1507
33.40	1164	1192	1221	1250	1279	1308	1337	1366	1395	1424	1453
34.60	1123	1151	1179	1207	1235	1263	1291	1319	1346	1374	1402

6000 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.5	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	4006	4102	4199	4295	4392	4489	4585	4682	4778	4875	4972
12.10	3608	3695	3782	3869	3956	4043	4130	4218	4305	4392	4479
13.30	3283	3362	3441	3520	3599	3679	3758	3837	3916	3995	4074
14.50	3011	3084	3156	3229	3302	3374	3447	3519	3592	3665	3737
15.60	2799	2866	2934	3001	3069	3136	3204	3271	3339	3406	3474
16.80	2599	2662	2724	2787	2850	2912	2975	3038	3100	3163	3226
18.00	2426	2484	2543	2601	2660	2718	2777	2835	2894	2952	3011
19.20	2274	2329	2384	2439	2493	2548	2603	2658	2713	2768	2822
20.40	2140	2192	2243	2295	2347	2398	2450	2502	2553	2605	2656
21.60	2021	2070	2119	2168	2216	2265	2314	2363	2411	2460	2509
22.70	1923	1970	2016	2063	2109	2155	2202	2248	2294	2341	2387
23.90	1827	1871	1915	1959	2003	2047	2091	2135	2179	2223	2267
25.10	1739	1781	1823	1865	1907	1949	1991	2033	2075	2117	2159
26.30	1660	1700	1740	1780	1820	1860	1900	1940	1980	2020	2060
27.50	1588	1626	1664	1703	1741	1779	1817	1856	1894	1932	1971
28.70	1521	1558	1595	1631	1668	1705	1741	1778	1815	1851	1888
29.90	1460	1495	1531	1566	1601	1636	1672	1707	1742	1777	1812
31.00	1408	1442	1476	1510	1544	1578	1612	1646	1680	1714	1748
32.20	1356	1389	1421	1454	1487	1519	1552	1585	1618	1650	1683
33.40	1307	1339	1370	1402	1433	1465	1496	1528	1559	1591	1622
34.60	1262	1292	1323	1353	1384	1414	1444	1475	1505	1536	1566

6500 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	4446	4550	4655	4760	4864	4969	5074	5178	5283	5388	5493
12.10	4005	4099	4193	4288	4382	4476	4570	4665	4759	4853	4948
13.30	3643	3729	3815	3901	3987	4072	4158	4244	4330	4415	4501
14.50	3342	3421	3499	3578	3657	3735	3814	3893	3971	4050	4128
15.60	3106	3179	3253	3326	3399	3472	3545	3618	3691	3764	3838
16.80	2884	2952	3020	3088	3156	3224	3292	3360	3428	3496	3561
18.00	2692	2755	2819	2882	2946	3009	3072	3136	3199	3262	3326
19.20	2524	2583	2643	2702	2762	2821	2880	2940	2999	3059	3118
20.40	2375	2431	2487	2543	2599	2655	2711	2767	2823	2879	2935
21.60	2243	2296	2349	2402	2455	2507	2560	2613	2666	2719	2772
22.70	2135	2185	2235	2285	2336	2386	2436	2486	2537	2587	2637
23.90	2028	2075	2123	2171	2218	2266	2314	2362	2409	2457	2505
25.10	1931	1976	2021	2067	2112	2158	2203	2249	2294	2340	2385
26.30	1843	1886	1929	1973	2016	2059	2103	2146	2189	2233	2276
27.50	1762	1804	1845	1887	1928	1970	2011	2052	2094	2135	2177
28.70	1688	1728	1768	1808	1847	1887	1927	1967	2006	2046	2086
29.90	1621	1659	1697	1735	1773	1811	1850	1888	1926	1964	2002
31.00	1563	1600	1637	1674	1710	1747	1784	1821	1858	1894	1931
32.20	1505	1540	1576	1611	1647	1682	1717	1753	1788	1824	1859
33.40	1451	1485	1519	1553	1587	1622	1656	1690	1724	1758	1792
34.60	1401	1433	1466	1499	1532	1565	1598	1631	1664	1697	1730

7000 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	4886	4998	5111	5224	5337	5449	5562	5675	5787	5900	6013
12.10	4401	4503	4604	4706	4807	4909	5010	5112	5213	5315	5417
13.30	4004	4096	4189	4281	4374	4466	4558	4651	4743	4835	4928
14.50	3673	3757	3842	3927	4012	4096	4181	4266	4351	4435	4520
15.60	3414	3493	3571	3650	3729	3808	3886	3965	4044	4123	4201
16.80	3170	3243	3316	3389	3462	3536	3609	3682	3755	3828	3901
18.00	2959	3027	3095	3163	3232	3300	3368	3436	3505	3573	3641
19.20	2774	2838	2902	2966	3030	3094	3158	3222	3286	3350	3414
20.40	2611	2671	2731	2791	2851	2912	2972	3032	3092	3153	3213
21.60	2466	2522	2579	2636	2693	2750	2807	2864	2921	2977	3034
22.70	2346	2400	2454	2508	2563	2617	2671	2725	2779	2833	2887
23.90	2228	2280	2331	2382	2434	2485	2537	2588	2639	2691	2742
25.10	2122	2171	2220	2269	2317	2366	2415	2464	2513	2562	2611
26.30	2025	2072	2118	2165	2212	2258	2305	2352	2399	2445	2492
27.50	1937	1981	2026	2071	2115	2160	2205	2249	2294	2339	2383
28.70	1856	1898	1941	1984	2027	2070	2112	2155	2198	2241	2284
29.90	1781	1822	1863	1904	1945	1987	2028	2069	2110	2151	2192
31.00	1718	1758	1797	1837	1876	1916	1956	1995	2035	2075	2114
32.20	1654	1692	1730	1768	1806	1845	1883	1921	1959	1997	2035
33.40	1594	1631	1668	1705	1742	1778	1815	1852	1889	1925	1962
34.60	1539	1575	1610	1646	1681	1717	1752	1788	1823	1859	1894

7500 LITRES PRODUCTION LEVEL

REPAY.-CAP. RATE %	PRICE/HL. 41.00	41.75	42.50	43.25	44.00	44.75	45.50	46.25	47.00	47.75	48.50
10.90	5326	5447	5567	5688	5809	5930	6050	6171	6292	6413	6533
12.10	4798	4906	5015	5124	5233	5342	5450	5559	5668	5777	5885
13.30	4365	4464	4563	4662	4761	4860	4959	5058	5157	5255	5354
14.50	4004	4094	4185	4276	4367	4457	4548	4639	4730	4821	4911
15.60	3721	3806	3890	3974	4059	4143	4228	4312	4396	4481	4565
16.80	3455	3534	3612	3691	3769	3847	3926	4004	4082	4161	4239
18.00	3225	3298	3371	3444	3518	3591	3664	3737	3810	3883	3956
19.20	3024	3092	3161	3229	3298	3366	3435	3503	3572	3641	3709
20.40	2846	2910	2975	3039	3104	3168	3233	3297	3362	3426	3491
21.60	2688	2749	2809	2870	2931	2992	3053	3114	3175	3236	3297
22.70	2557	2615	2673	2731	2789	2847	2905	2963	3021	3079	3137
23.90	2429	2484	2539	2594	2649	2704	2759	2814	2870	2925	2980
25.10	2313	2365	2418	2470	2523	2575	2627	2680	2732	2785	2837
26.30	2207	2257	2307	2357	2407	2458	2508	2558	2608	2658	2708
27.50	2111	2159	2207	2255	2302	2350	2398	2446	2494	2542	2590
28.70	2023	2069	2114	2160	2206	2252	2298	2344	2390	2435	2481
29.90	1942	1986	2030	2074	2118	2162	2206	2250	2294	2338	2382
31.00	1873	1915	1958	2000	2042	2085	2127	2170	2212	2255	2297
32.20	1803	1844	1885	1925	1966	2007	2048	2089	2130	2171	2212
33.40	1738	1777	1817	1856	1896	1935	1975	2014	2053	2093	2132
34.60	1678	1716	1754	1792	1830	1868	1906	1944	1982	2020	2058

POOR

QUALITY

ORIGINAL